

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019380**Date Inspected:** 17-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** An Qing Xiang, Qiu Wen**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Umesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

BAY 14, OBG 13CW (NWIT # 08201)

This QA inspector performed Magnetic Particle Testing (MT) of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated MT report for this date. The members are identified as OBG Components. The weld designations reviewed are as follows.

SEG3015N-087~122

LD3036-001-084~087, 117~120, 150~153, 183~186, 216~219, 243~246, 273~276, 303~306, 333~336

BAY 14, OBG 13CW (NWIT # 08203)

This QA inspector performed Magnetic Particle Testing (MT) of approximately 15% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated MT report for this date. The members are identified as OBG Components. The weld designations reviewed are as follows.

FB3227-001-055~058, 061~064, 067~070, 073~076, 079~082, 085~088, 091~094, 097~100, 045~048

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SEG3015F-010, 322, 026, 027

This Quality Assurance (QA) Inspector observed the following work in progress:

Bay 14

OBG Seg 14W

Repair welding of weld joint no: SEG3020L-086 [Bottom Plate (BP) 3091A to Floor Beam (FB) 3327A, Complete Joint Penetration (CJP) weld at Panel Point (PP) 127]. The welder is identified as 066398 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F)-FCM-Repair. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2687 Rev-1.

Repair welding of weld joint no: SEG3020K-025 [Bottom Plate (BP) 3091A to Sub Assembly (SA) plate SA3409A, CJP weld at Panel Point (PP) 127.3]. The welder is identified as 059270 and was observed welding in the 2G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC CWI was identified as Mr. An Qing Xiang. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-2G(2F)-FCM-Repair. Repair welding was done as per Critical Welding Repair Report (CWR): B-CWR 2691 Rev-0.

Repair welding of weld joint no: SEG3020X-008 [Floor Beam (FB) 3327A to Longitudinal Diaphragm (LD) 3051A, Complete Joint Penetration (CJP) weld at Panel Point (PP) 127]. The welder is identified as 051348 and was observed welding in the 3G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. Zhu Lin. The welding variables recorded by this QC appeared to comply with WPS: 345-SMAW-3G(3F)-FCM-Repair. Repair welding was done as per Welding Repair Report (WRR): B-WR 20152 Rev-0.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020AG-007 [Floor Beam (FB) 3321A to Edge Plate (EP) 3030C, CJP weld at panel point (PP) 126]. The welder is identified as 201215 and was observed welding in the 3G position. ZPMC CWI was identified as Mr. An Qing Xiang. The welding variables recorded by QC appeared to comply with WPS: B-T-2233-ESAB.

During random in process inspection this QA Inspector observed that the back gouging is done for Edge Plate (EP) 3030C/3030D to Floor Beam (FB) 3329A, complete joint penetration (CJP) welds (at PP 127). However, for weld no: SEG3020AG-003, 010 transverse cracks were observed after back gouging. This QA Inspector informed about this to ZPMC CWI Mr. An Qing Xiang and CT lead QA. ZPMC will be submitting CWR, before proceeding welding of this joint. Attached photographs provide additional details.

OBG Seg 13CW

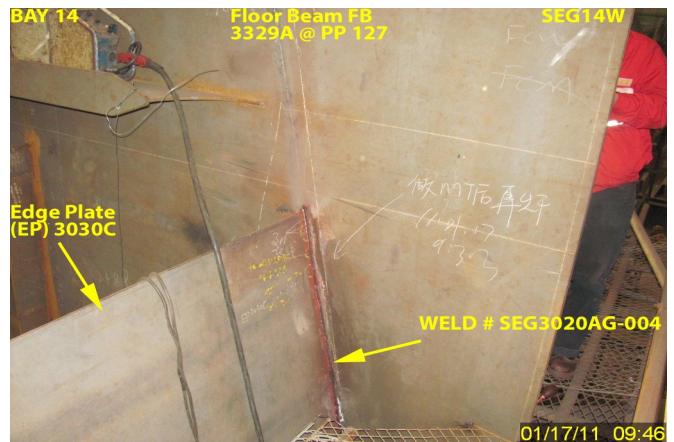
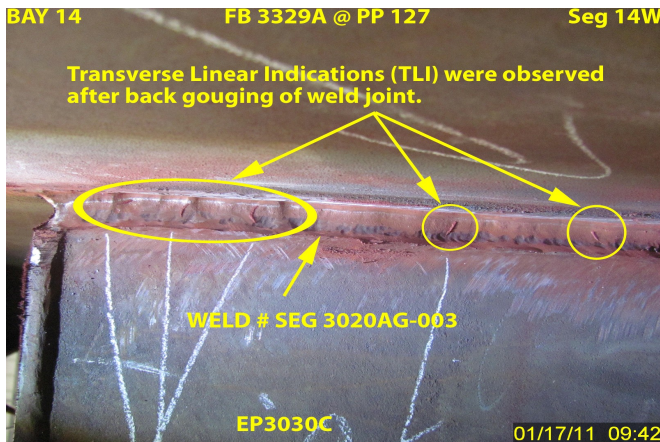
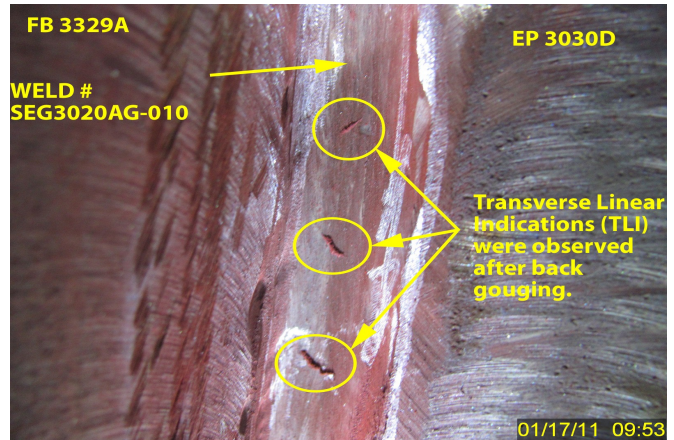
The Submerged Arc Welding (SAW) process on weld joint no: SEG3015-001 [Deck Panel (DP) 3148A to Deck Panel (DP) 3149A, CJP weld]. The welder is identified as 250050 and was observed welding in the 1G position.

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ZPMC QC was identified as Mr. Zhang Lin. The welding variables recorded by QC appeared to comply with WPS: B-T-223(2)1T-ESAB-1.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



## Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang : 15000422372, who represents the Office of Structural Materials for your project.

Inspected By:	Gaikwad,Umesh	Quality Assurance Inspector
Reviewed By:	Peterson,Art	QA Reviewer